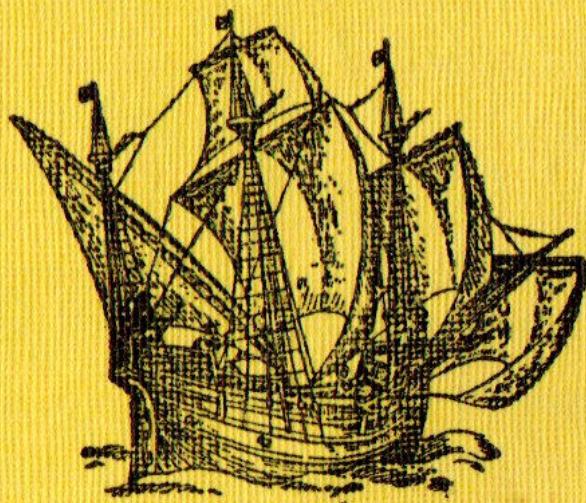


History Bookshelves

SHIPS
AND
SEAMEN

BY
CATHERINE B. FIRTH

DRAWINGS BY H. WEISSENBORN



GINN

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C. B. FIRTH 1955
Sixth impression 1965 056508

Printed in Great Britain by The Campfield Press, St. Albans, Herts.

Ships and Seamen of Tudor England

HENRY VIII AS A CHILD

Henry VIII loved ships. When he was a very little boy he could watch them move up and down the Thames, for he had been born in his father's palace in Greenwich, on the river. The first public positions to which he was appointed were as Warden of the Cinque Ports and Constable of Dover Castle. This meant that he was, in name, governor of five ports on the coast of Kent and Sussex, and of Dover Castle, which stood and stands on the Dover cliffs. Dover Castle kept guard over the Straits of Dover, the narrow seas which separate England from France. So, in name, Henry's first job as a prince had to do with ships and the sea. In name, but not yet in practice, for the new Constable of Dover Castle was only ten months old.

As Henry grew up he heard exciting stories of adventures by sea. In 1492, the year after he was born, Christopher Columbus sailed south-west from Spain in the *Santa Maria* across the Sea of Darkness—the Atlantic. Columbus discovered the islands off the south-east coast of North America to which the name West Indies was given. Two other small ships, the *Pinta* and the *Nina*, sailed with the *Santa Maria*; altogether there were eighty-eight men on board. Only one of the



Dover Castle in the sixteenth century

eighty-eight was an Englishman. One was Irish. The others were Portuguese, Spanish and Italian. Columbus himself came from Genoa, though he sailed in Spanish ships provided by the Spanish king and queen. At one time he had thought that Henry VII, Prince Henry's father, might give him ships, but that idea came to nothing.

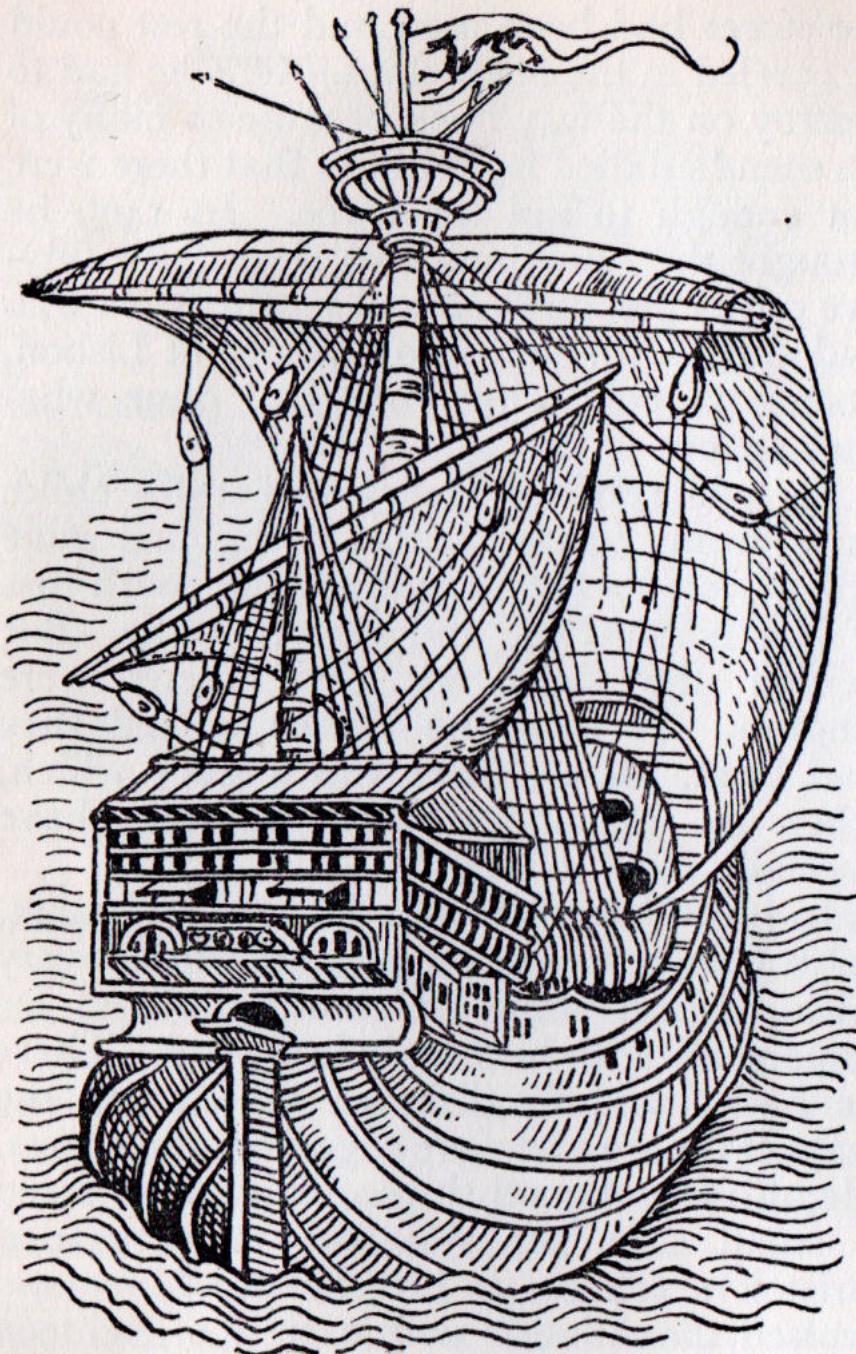
When Henry was six years old a Portuguese seaman, Vasco da Gama, sailed with four ships from Portugal to find a way to India by sea. One of his ships, his store-ship, he broke up on the way out when many of

the stores had been used and the rest could be carried in the other ships. One he had to destroy on the way back because so many of his men had died from illness that there were not enough to sail the three. In 1499 he brought the remaining two ships, and fifty-five out of the hundred and seventy men who had sailed with him, into harbour at Lisbon, Portugal's chief city: they had done what they set out to do.

So, while Prince Henry was still a child, ships from Europe had for the first time sailed west to the islands off the south-east of North America, and east to India. But neither the ships nor their crews were English. Perhaps the Prince wished they had been. If so, there was a story which, when he was about seven, he must have specially liked to hear.

In 1496 Henry VII gave leave to an Italian, John Cabot, to sail on voyages of discovery with English ships. Cabot had lived for some years with his family in Bristol. There he had found Englishmen who knew the ways of the sea and were eager for adventures. He also found good ships. In 1496 he hired a small ship, the *Matthew*—or persuaded Bristol merchants to hire her for him—and crossed the Atlantic with a crew of eighteen men.

Next year Cabot came back. He had found land, and seas near the coast which



*A ship of Columbus's fleet
From a book printed in 1493
Notice clinker-building, summer castle, rudder*

were 'covered with fish'. He had seen no human being, but he had found trees which had been cut down by men, and he brought back a needle of the kind used for making nets. Perhaps the country was what is now called Newfoundland: no one knows for certain. Cabot himself believed that he had found the coast of Cathay (China). Englishmen, he thought, would be able to trade with Cathay, taking cloth by sea and bringing back jewels and silk.

The merchants of Bristol were delighted. So was the King, who said Cabot might go again, this time with six ships. So was Cabot. He called himself 'Admiral', and dressed in silk. Henry VII invited him to his court. Perhaps the little Prince saw him there.

HENRY VIII'S FATHER, HENRY VII, BUILT SHIPS

When Prince Henry was older he must have felt proud to have a father who cared as much for ships as he himself did, though perhaps in a different way. Henry VII wanted to improve English trade so that the merchants, and the whole country, might grow richer. He thought that goods which came from other countries to England ought to be brought in English ships. But there were too few ships, and those which had been built were too small. So he decided to build ships of his own. As king, of course, he did not work on them. He planned them, and

THE TUDOR RULERS

Henry VII: 1485

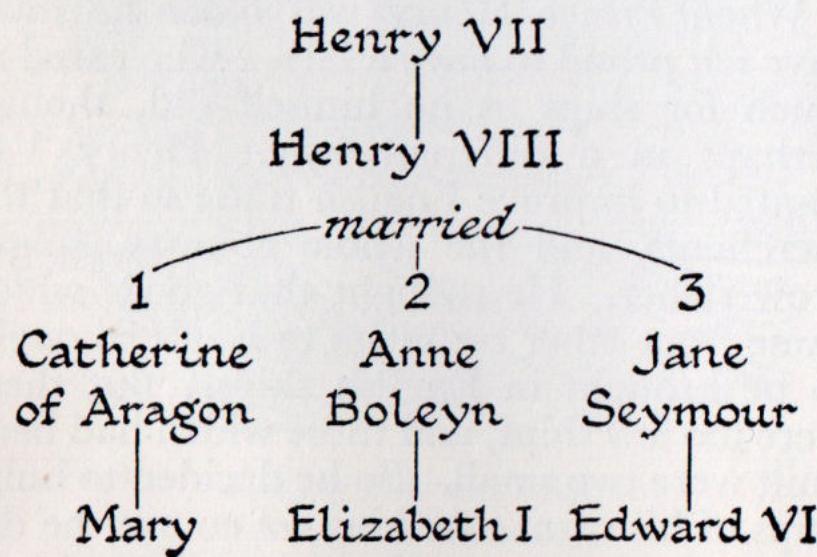
Henry VIII: 1509

Edward VI: 1547

Mary: 1553

Elizabeth I: 1558

THE TUDOR ROYAL FAMILY



paid for their building, their equipment, and the goods they carried. He also paid the crew and the master, that is the man put in charge of the ship. The plan cost him much money, but he gained still more through selling the goods.

Sometimes Henry VII let out his ships on hire to groups of merchants. That, too, brought him money. But he never gained anything by sending ships across the Atlantic to China: everyone who learns geography will know the reason why. On his second voyage Cabot found out his mistake.

Henry VII had a second reason, as well as earning money, for building ships of his own. He wanted to show Englishmen what good ships could be built. He thought that some of them would try to do what he had done. They did. Then he helped them with grants of money.

Henry VII's four best ships were the *Mary Fortune*, the *Sweepstakes*, the *Sovereign* and the *Regent*. They were built before his son was born, and the boy must have seen them all. Probably Prince Henry liked the *Regent* best; she had four masts and she was the biggest, a ship of 1,000 tons. (The ships which Cabot was given leave to use on his second voyage were not to be of more than 200 tons each.) The *Sovereign* was of 800 tons and, like most sea-going ships of that time, she had three masts.

SHIPS' GUNS

The *Regent* and the *Sovereign* carried guns fore and aft (front and back; compare the words 'before' and 'after'). But they were not men-of-war. No English ships were then built only for fighting. Merchantmen carried guns for two reasons: (1) They might have to defend themselves against pirates and other enemies. (2) They might be needed by Henry VII in time of war. In war, the king had the right to 'impress' ships, that is to seize as many as were thought necessary. The owners expected to be paid.

English soldiers could not, of course, invade any country over which the king did not reign (except Scotland), or attack any enemy coast town, unless ships were available. If English soldiers were sent out by sea, the enemy would naturally try to send soldiers in ships to prevent an attack. Then the guns in the English ships were fired to kill as many enemy soldiers as possible. The stone cannon balls could not do much harm to the strong wooden planks of which ships were built. The balls were small, and the explosion of gunpowder was not violent enough to carry them for long distances. They might, however, kill more of the enemy than the arrows of the English archers who stood on the ship's 'castles' and, like the gunners, aimed at the soldiers on the castles of the enemy ship.

Words used in speaking of Tudor ships

	page		page
aft	8	mainmast	11
armada	31	mizzen-mast	11
bonaventure		muzzle-loading	
mizzen	11	gun	15
bow	10	pinnace	30
breech-loading		poop	19
gun	15	press-gang	22
carvel-built	16	rigging	28
clinker- (or clincher-) built	16	spritsail	11
fore	8	stern	10
forecastle	10	summer castle	
foremast	11	(=after castle)	10
galleon	29	tonnage	29
lateen sail	11	topsail	28
		wale	17

Castles had been used for fighting at sea for more than two hundred years. At first they had been wooden platforms put up on a ship for soldiers to stand on in war-time, and afterwards taken down. Later when cannon—big guns—were invented, castles strong enough to hold them were built as part of a ship, one fore and one aft. The guns were placed on and fired from the decks of both castles.

By the time when Prince Henry was growing up, changes were coming in the use

of both the forecastle and the aftercastle. When he was a child, archers still shot from the forecastle, but the guns were placed below the deck and fired through portholes in both sides of the castle. A little later portholes through which the guns were fired were made in the sides of the bow—the front part—of the ship herself. At the stern—the back part—of the ship, the same arrangements for guns were made. In the Prince's childhood they were fired through portholes in the aftercastle; later, through portholes in the stern. In his childhood the aftercastle, or summer castle as it was now called, was no longer used for soldiers to shoot from; it was built so that it could contain a cabin for the master of the ship and other important people. The rudder also was at the stern.

The word forecastle is still used, but it is now spelt fo'c's'le: the commas above the line show that letters have been left out—you can see which they are. Fo'c's'le is pronounced with the 'o' like the 'o' in joke, and the 's'le' rather like a quiet sneeze, as if it rhymed with 'tle' in little. It now means the forward part of a merchant ship where the sailors live, under the deck. The word bow, when it means part of a ship, is pronounced to rhyme with cow. Stern, when it means part of a ship, is now pronounced as it is in its other meaning.

SHIPS' MASTS

The three masts carried by the *Sovereign* and other sea-going ships were the main mast, in the middle; the foremast, the position of which you can guess; and the mizzen, carried aft. The *Regent* had two masts aft, of which the one furthest aft was called the bonaventure mizzen. All the masts of a ship carried square sails except the mizzen (and the bonaventure mizzen if there was one), which carried a sail in the shape of a triangle, called a lateen sail. A sail could be carried under the bowsprit, which was a spar (a wooden pole) set at an angle to the foremast: this sail was called the spritsail. Both the bowsprit and the spritsail overhung the water.

DRY DOCKS

The *Regent* was so big that there was no English dock which would hold her. Henry VII had the country's first dry dock built at Portsmouth, and it was made large enough even for his biggest ship. A dry dock is a place in which a ship can be overhauled and repaired; after a ship has entered, the water is pumped out. The dock at Portsmouth had wooden walls which were probably strengthened by being backed with stone at the dockhead, that is, the end at which water was admitted when the ship was ready to be launched again. At this end there were

gates which kept back the water when they were shut. By the time that Prince Henry was old enough to be taken to see the dry dock, store-houses and workshops were being put up nearby. Portsmouth had become the most important place in the kingdom for building and repairing ships.

When Prince Henry was eighteen his father, Henry VII, died, and he became King Henry VIII. Before he himself died in 1547 English ships were stronger, better armed, and more in number than ever before. He has been called the founder of the Royal Navy, and though he was not the first English king to care about ships perhaps he deserves the title.

Henry VIII bought some of his warships from towns in Europe. Many of them were built at home, some at Portsmouth, even more, before the end of the reign, at Deptford in a dockyard begun in 1517. Woolwich, too, had become a centre for ship-building. Men who worked in the dockyards were collected from a number of different towns on the coast and sometimes even from towns inland. They were given money for food and lodgings as they travelled to their work, and during the time they had to stay near the dockyard they had free lodging and board, as well as their wages. For example, for Henry's most famous ship, the *Henri Grace à Dieu* (Henry, (king) by the grace of God),

The *Henri Grace à Dieu* was of 1,000 tons and carried four masts. Later she was rebuilt and then had 122 guns, 19 of them brass.

CHANGES IN HENRY VIII'S REIGN

Guns for ships were very much improved under Henry VIII. (1) They were made stronger, and because they could stand a much bigger explosion than earlier they could shoot cannon balls further and with more force. In Henry VII's time guns were made by welding together, lengthways, a number of iron bars, to form an iron tube. The tube was then strengthened by shrinking over it a number of iron hoops. In Henry VIII's time the best guns were made of brass, one solid piece which was then bored. (2) Arrangements for loading were altered.

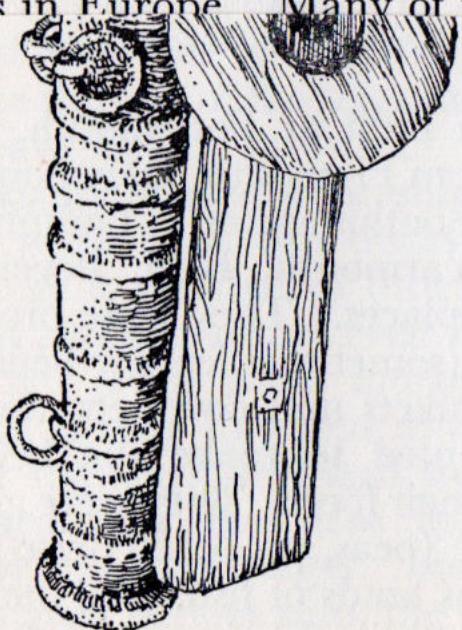
Men on the castles carry weapons

which was built at Portsmouth, men were brought from Plymouth, Dartmouth, Exeter, Bristol, Southampton, Bodmin, Poole, Ipswich, Yarmouth, Hull, Beverley, York, and other places. They were provided with flock beds (sometimes feather beds), bolsters, sheets, blankets and coverlets, and someone was appointed to make the beds. Cooks prepared their food. They were given bread, beer, pease (peas, probably dried), porridge, and various kinds of fish. All the same, they must have disliked being away from home.

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An iron gun from the cannon-ball, weighing 1000 lbs. The chamber was for the gunpowder. The gun could be chained to the carriage. The carriage was of wood; the second wheel was not joined.

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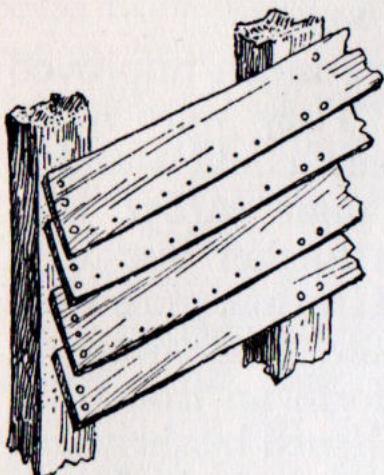
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Better guns needed better ships. Better ships could carry better guns. Improvements in guns and in ships went on side by side, and Henry VIII watched and encouraged all the good plans that were made.

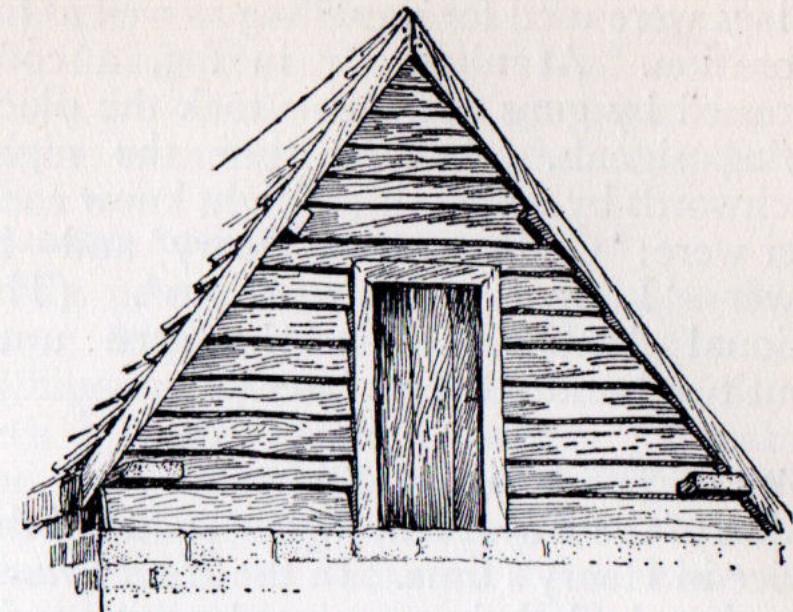
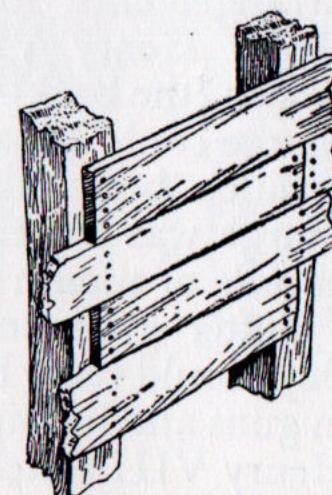
In big ships there were three important changes during the reign. (1) The hull, the main body of the ship, was more strongly

built by a new arrangement of planks. Earlier ships used in war had been clinker-built; now they were carvel-built. In clinker-building



planks are arranged to overlap, downwards. In carvel-built ships planks are put edge to edge, lengthways, flush with each other. In the country clinker-building is still often used, for example, for the upper part of barns. In towns you can often see clinker-built sheds

for tools or for bicycles. (2) Ships were built to carry guns broadside, that is, on each side of the hull; they were fired through square portholes cut in the carvel-built sides. Men-of-war usually carried two rows of guns arranged on decks built one above the other inside the hull. (3) Ships were often built with square sterns in which, cut low, were two portholes. Through the portholes two heavy guns stuck out. Their use can be guessed from their name: stern-chase guns.



Clinker-built gable of a shed in Monks Risborough, Bucks.

Henry's ships were a fine sight when they put out to sea from Portsmouth or Deptford with the wind in their sails. The hulls were covered with a mixture of oil, turpentine, and resin, but their upper edges (called wales) might be painted in green and white, the Tudor colours, or in light red. Gold, brown, 'bice' (blue and green), and ashen colour were also used to ornament ships both in Henry's reign and his father's. The cross of St. George—red on a white ground—was usually flown from one or other of the masts, and other flags bore special badges: a dragon for Henry VIII, a pomegranate for Queen Catherine, his first wife.

Flags were used for signalling as well as for decoration. At night, or in fog, a code expressed by guns and lights took the place of flag signals. At one time the night watchwords by which ships might know each other were: 'God save King Henry' and—in answer—'Long to reign over us'. (The National Anthem was not written until about two hundred years later.)

CREWS OF THE ROYAL NAVY

Men of the Royal Navy grew proud of the service in Henry's time. In the *Henri Grace à Dieu* they had their appointed positions in the ship, their own special work to take trouble about, and this became the usual custom. Some of the crews, at least on special occasions, wore uniforms of white and green. For officers' uniforms a finer material was provided, and the most important officers of all wore white and green satin. Special coats of some kind seem to have been often used, but there was not yet a regular uniform for everyone who served in the Navy, even for special occasions, and we do not know what sailors wore for everyday work.

Food at sea was uninteresting: biscuits and beer, salt beef and herrings. Stores were provided by merchant ships hired specially for the work. The navy did not have its own victualling (food-providing) department

until the reign of Henry VIII's son, Edward VI. In his reign too, a dockyard was begun which in Elizabeth I's reign became more famous even than Portsmouth or Deptford.

CHANGES UNDER ELIZABETH I

The new dockyard was in the river Medway. At first it was called Gillingham, or Gillingham Water. In the time of Elizabeth I it was called Chatham. Elizabeth and her Councillors were as eager about ships as her father, Henry VIII, had been. The great new dockyard often rang with the sound of hammers and the voices of men who called to each other as they worked.

Changes in the designs to which ships were built made them stronger and swifter than English ships had ever been. They were built longer in proportion to their width. The forecastle and the poop (the deck furthest aft) were lower; there was no summer castle. More guns were carried.

Ships were more gaily decorated than earlier. Carved and painted figureheads were used at the prow (the front) and sometimes also at the stern. For example, the *White Bear*, built in 1579, was coloured red and carried at her prow 'an image of Jupiter [chief god of the Romans] sitting upon an eagle, with the clouds', while at the stern was 'the great piece of Neptune [god of the sea]

Classes of brass guns in Elizabeth I's reign

<i>Name</i>	<i>Weight of ball thrown</i>
Demi-cannon	about 32 lb.
Cannon-Perrier	about 24 lb.
Culverine	about 18 lb.
Culverine-Bastard	about 12 lb.
Demi-Culverine	about 9 lb.
Saker	about 6 lb.
Minion	about 3 lb.

Demi means half. Cannon throwing balls much larger than 32 pounds were used in Europe, but not in England, in Elizabeth's reign. In Henry VIII's reign a large gun called the Cannon-Royal had been used.

and the Nymphs about him'. The *Adventure*, the *Dreadnought* and the *Hope* had each a dragon as her figurehead; the *Charles*, the *Defiant* and the *Rainbow* had a lion; the *Mary Rose* a unicorn, and the *Swiftsure* a tiger.

Flags carried at the masthead gave extra colour. The flag of St. George (now part of the Union Jack) has a red cross on a white ground (see pages 13, 23, 27, 32).

The Government of Elizabeth had one difficulty to face which had not troubled Henry VIII. How was the supply of men skilled in the knowledge of boats to be kept up? Crews for men-of-war, and for large merchant ships, could not be composed of mere landsmen. Some sailors had learnt to

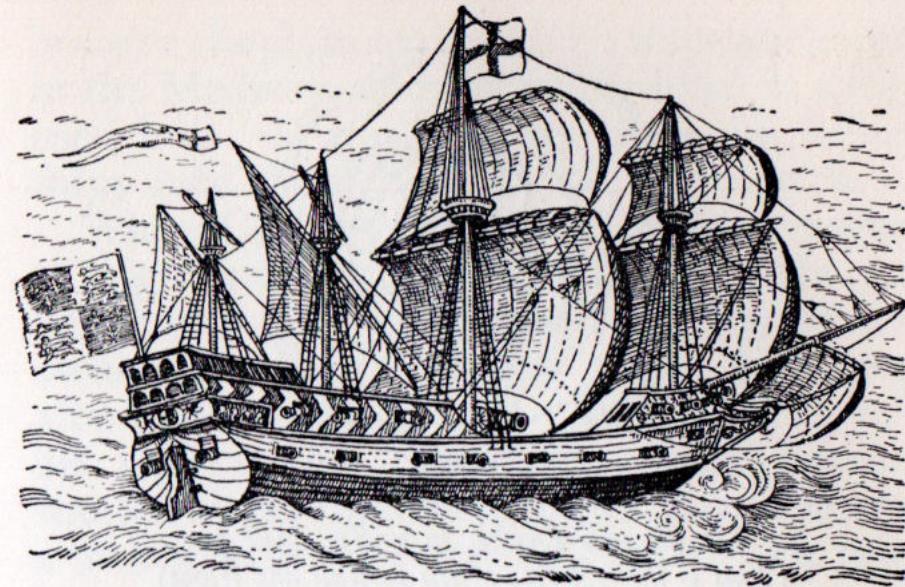
manage boats on the Thames, watched, sometimes, by a young prince from the windows or gardens of the palace of Greenwich. Others had begun as fishermen off the English coasts. Boats, indeed, still plied on the Thames. But far less fish was needed in England in Elizabeth's reign than in her father's. When Henry VIII began to reign the Catholics of the country, including the monks, had eaten fish instead of meat on Fridays and other fast days. When he died, the monasteries had been destroyed and a number of English people were ready to become Protestants. The Government of Edward VI was Protestant, and though Queen Mary, who reigned next, was a Catholic, Elizabeth's Councillors were Protestants. (*Bibles and Prayer-books* tells about some of the differences between Catholics and Protestants.) Protestants did not keep fast days. Less fish was needed. Therefore fewer boys became fishermen.

Elizabeth and her chief adviser were disturbed about this. So Cecil suggested to Parliament that a law should be made ordering people to eat fish three times a week, on Wednesdays, Fridays and Saturdays. This, he said, was necessary in order to 'multiply mariners'. It was useless, he knew, to have more ships built unless there were sailors to man them and, when necessary, to handle their guns. A law was

passed, and no one (not even schoolboys, as is told in *Elizabethan Schools*) was allowed meat for dinner or supper on 'fish-days'.

Of the men who were used to handling boats some were glad to work in the royal ships when they were needed. Many were 'impressed'. That is, they were taken from their own work by a press-gang, a group of men in the service of the king or queen. Whether he wished to or not a man so impressed had to go, unless (sometimes) he could find someone to take his place.

As the reign went on, the building of ships itself helped to encourage sea-faring men. It happened in this way. So many trees were cut down for ships that there was fear lest wood should become scarce. Up to this time only a little coal had been used in England, but now people in the south, where the trees of forests such as the New Forest were being cut down, began to burn it instead of wood to keep themselves warm. Coal was mined near the surface in Newcastle and brought to London and other ports in the south by sea. There were then no railways or canals, and the roads were much too bad for anything so heavy as coal to be dragged in carts by horses for long distances. So it came about that many an Englishman gained his first experience of the sea in ships bringing 'sea coal', as it was called, along the coasts of his own country.



The Bonaventure: an old-fashioned ship used by Drake in 1585 and 1587

GREAT ELIZABETHAN SEAMEN

Elizabethan seamen often began their careers in fishing boats or colliers. They often ended them by sailing further out than Englishmen had ever sailed before. Those were the days of Drake, the first Englishman who took his ship round the world. The days of Hawkins, who sailed to the West Indies (see page 25). (For eleven years he was Treasurer of the Navy, and worked in London planning and organizing and giving orders about the building of ships, until the Queen's navy, with the other ships of England, was ready to beat the Spanish Armada.) The days of Sir Richard Grenville, who went down with his ship, the *Revenge*,



*Sir Francis Drake, in 1581, aged 41
(This is the real size of the portrait and frame)*

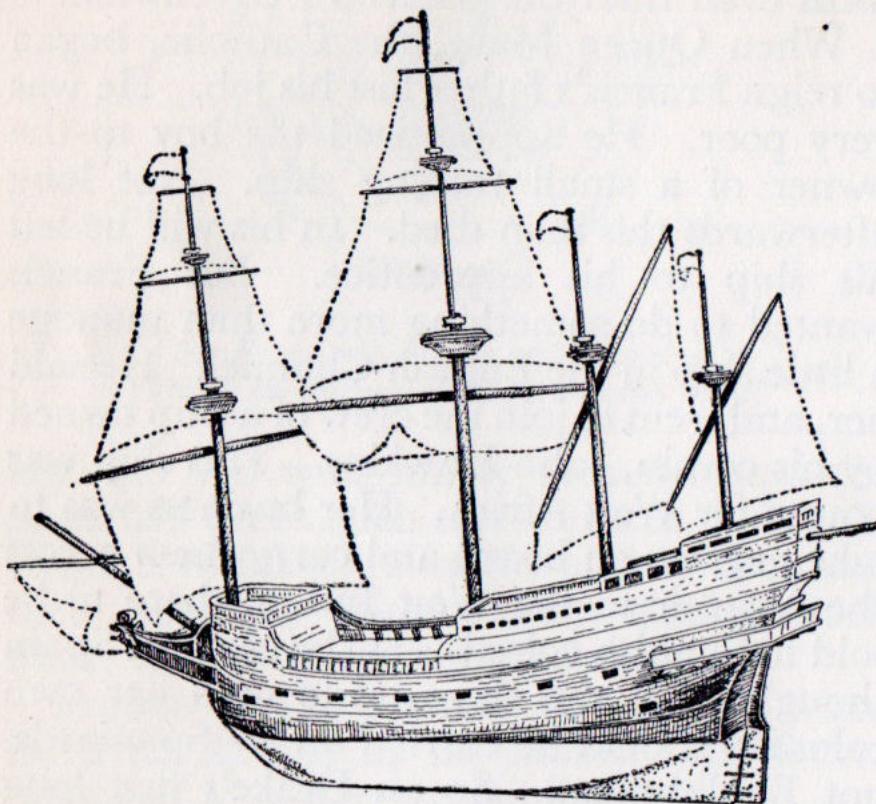
after he had with ninety men defeated the plans of a fleet which carried three thousand. Readers will find the stories of these men and their ships in History First Series, Book Four, and in other history books.

Francis Drake learned about ships when he lived in one as his home. His father belonged to a farming family in Devon, but when the boy was nine years old he was hurriedly taken to Plymouth, where for the first time he saw the sea. His father was a Protestant, but in the reign of Edward VI (as is told in *Bibles and Prayer-books*) Catholics in Devon rose in rebellion because the Government was trying to make the whole country Protestant. No Protestant families in Devon felt safe, and Francis Drake's father took his wife and children by sea away from Plymouth. Soon afterwards he

became chaplain to the King's ships anchored in the Medway, and the family lived in a disused hull. It was a better place for seeing ships even than the palace of Greenwich.

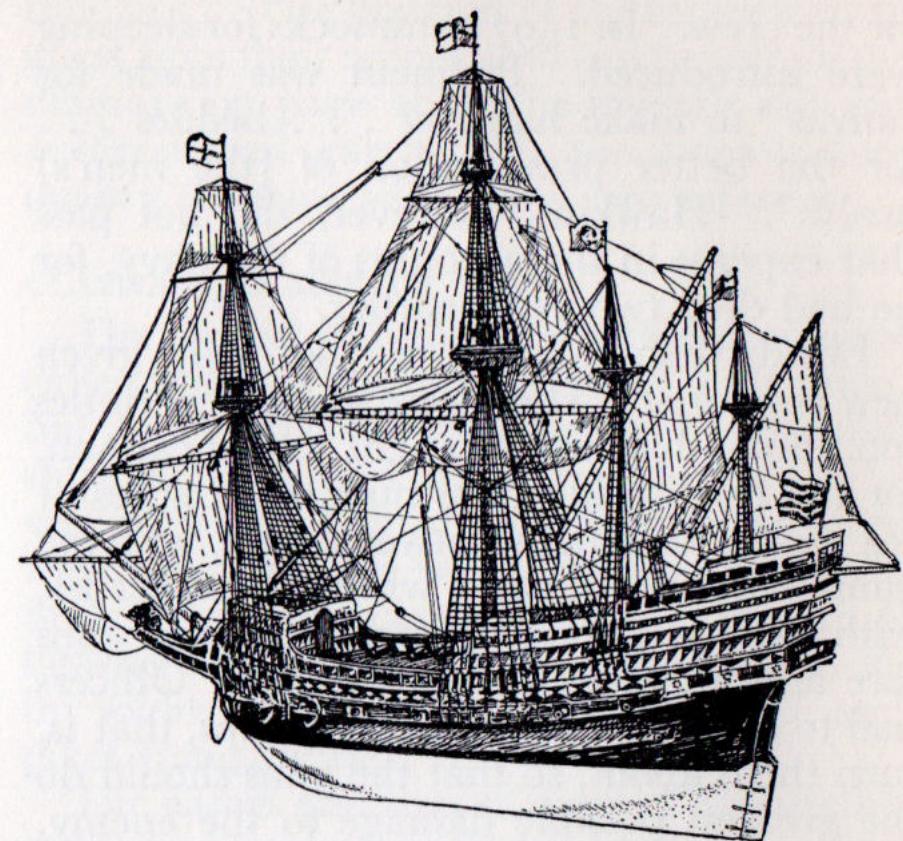
When Queen Mary, the Catholic, began to reign Francis's father lost his job. He was very poor. He apprenticed the boy to the owner of a small trading ship. Not long afterwards this man died. In his will he left his ship to his apprentice. But Francis wanted to do something more than manage a little ship in the English Channel. He sold her, and went to join the crew of a ship owned by his cousin, John Hawkins. This ship was bound for West Africa. Her business was to take negroes on board and carry them across the Atlantic to the West Indies, there to be sold to Spanish colonists as slaves. But Spain thought that the slave trade with her own colonists should be carried on by Spaniards, not Englishmen. So on Drake's first long voyage he met Spaniards as enemies, and enemies they remained for the rest of his life. His friends were ships and the sea.

John Hawkins was a good business man. He grew rich through the slave trade; like other men of his time he did not think of the slaves' unhappiness. He used his powers in a happier way as Treasurer of the Navy, though even before he was given the post (in 1577) Elizabeth had more and better ships of war than Henry VIII had built.



A diagram of the Elizabethan ship of war on the next page

How many of the masts and sails and other parts of the ship can you name? Look at pages 11, 28 and 29 and at the list of words on page 9. Then try number 2 of *Things to do* suggested opposite page 32.



An Elizabethan ship of war, about 1600

This picture is drawn from a model in the Science Museum, London. No real ship like it exists. The model was made from notes about warships of the end of Elizabeth's reign written then. One was called the *Elizabeth Jonas*. A ship like this might carry 2 demi-cannon, 2 cannon-perrier, 18 culverines, 14 demi-culverines, 10 sakers, and some minions.

ELIZABETHAN CREWS

Before the end of Elizabeth's reign improvements were made in living conditions for the crew. In 1597 hammocks for sleeping were introduced. Payment was made for canvas 'to make hanging . . . beddes . . . for the better preservation of [the men's] health'. Hawkins, however, did not pass that expense in the accounts of the navy, for he had died two years earlier.

Elizabethan sailors were not only given new comforts. They were given new duties too. Some had to be taught to fire cannon, for the English idea was now that battles at sea should be fought between ships, with big guns—not between men who stood on castles, with hand weapons. Warships carried guns fore and aft as well as broadside. Officers had to learn how to manœuvre ships, that is, turn them about, so that the guns should do the greatest possible damage to the enemy. Large merchantmen as well as men-of-war carried guns.

RIGGING

Both classes of large ships had usually the same rigging (arrangement of masts and sails). As a rule they carried three masts, sometimes four, and either six or seven sails. The six were: mainsail and main topsail, fore-sail and fore-topsail, mizzen and spritsail, the mizzen being a lateen sail. (In the

names of sails which are made up of some other word together with 'sail', 'sail' is pronounced as if it were spelt 'sl', without the 'ai'.) The position of the sails is easy to guess from their names, and can be seen in the diagram on page 26. The seventh sail was a lateen sail carried by the bonaventure mizzen on ships which had two mizzens.

CLASSES AND SIZE OF SHIPS

The biggest ships of Elizabeth's navy were called galleons by the men who built them, but that word was more often used of Spanish ships of the same kind, though larger. The way in which English and Spanish galleons were used in war was, however, different. Spanish galleons carried guns, but the chief fighting was supposed to be done as on land, by soldiers with muskets (hand-guns) and pikes (long spears).

The names and sizes of some of Elizabeth's men-of-war are given on the next page. The sizes are calculated in tons. The tons in which a ship was measured took their name, before Tudor times, from the barrels in which wine was brought from France. Tonnage then came to mean, in general, the size of a ship expressed by what it could carry. In Tudor times the measurement was not very exact. Ships are still measured in tons, but now the calculations are differently made and are exact, so the

Some ships of the Royal Navy

In the time of Elizabeth I:

<i>Name</i>	<i>Tonnage</i>
<i>Triumph</i>	955
<i>Ark Royal</i>	692
<i>Vanguard</i>	561

In the time of Elizabeth II:

<i>Name</i>	<i>Tonnage</i>
<i>Triumph</i> (Light aircraft carrier)	13,350
<i>Ark Royal</i> (Fleet aircraft carrier)	36,800
<i>Vanguard</i> (Battleship)	44,500

lists above can only be roughly compared.

Of course there were ships of different sizes, and used for different purposes, in Elizabeth's navy. *Pinnaces* were vessels—usually of between 40 and 100 tons—which carried square sails and could also be rowed with oars; they were often used for sending messages. *Long-boats* were open boats, sometimes as much as fifty feet long, which could be used for taking on stores. A long-boat was towed astern of a warship and in bad weather might be washed away. In the fight with the Spanish Armada most of the English men-of-war lost their long-boats.

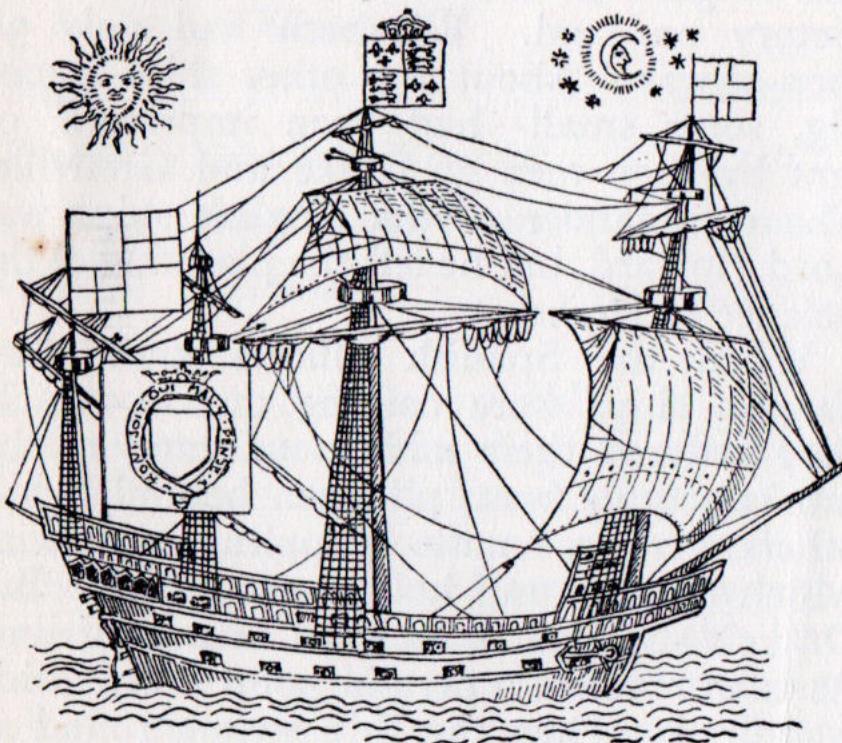
THE SPANISH ARMADA

The word armada means a big fleet. But when we speak of the Spanish Armada, or just the Armada, we mean the ships which Philip II, King of Spain, prepared for the invasion of England. On a July morning in 1588 126 Spanish men-of-war sailed up the English Channel, with soldiers and horses on board. The Spaniards expected to defeat the English at sea and to complete their victory on land. Elizabeth had only 34 men-of-war. About 150 other ships—some big, some small—had been impressed, or lent by such men as Drake and Grenville. The commander of the English ships was Lord Howard, but he left the planning of the defence to Drake.

When the Spanish officers knew that English ships were coming out to attack, they ordered their soldiers to stand ready, musketeers in front, pikemen behind, while others were to handle grappling irons with which to seize and hold enemy ships. But Drake's ships came forward in a long line. As each reached a certain point a broadside was fired. Then the ship swung round so that her guns might be re-loaded. The Spanish soldiers were helpless.

That was only the beginning. For nine days every plan made by the Spaniards was prevented by the English ships from succeeding. Then came another chance for English

broadsides. Again Spanish soldiers were helpless. At last the Spanish commander gave the order for his ships to sail north round Scotland, then south for home. But a storm completed the Spaniards' distress: no more than fifty ships of the grand Armada reached Spain. English ships and seamen had proved their worth.



Things to do

1. Copy into your notebook the most interesting words from the list on page 9. Look up the page where the word is used, and write its meaning in your own words.
2. On a big sheet of paper draw a diagram of an Elizabethan ship. Number the masts, sails and any parts of the ship of which you know the names. Below the diagram write the numbers and the names in a list.
3. For a week, try to find any buildings in your neighbourhood which are clinker-built.
4. Find out all you can about a submarine or any other modern ship used in war. Write down four things about it, in a list. Opposite each thing, write one thing about a ship used for fighting in Tudor times which is like, or different from, the thing you wrote about the modern ship.
5. Copy the 'tree' of the Tudor family from page 6. Underline the names of Henry VII, Henry VIII and Elizabeth, using a different colour for each. Below, write three things to do with ships in each reign and underline with its colour.
6. Make a collection of pictures of modern ships and paste them into a book. Under each write the name of the ship and its kind.

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